UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,310	09/06/2000	Goro Ishida	04783/016001	9423

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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/656,310	ISHIDA, GORO
	Examiner	Art Unit
	Karl R. Reitz	2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _09 June 2000_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-40_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-40_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _09 June 2000_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Specification

1.   The disclosure is objected to because of the following informalities: on page 37, the flowchart of figure 31 is referred to, however figure 31 it not a flowchart. It appears that the reference should have been to figure 32. Further, on pages 47-48, the flowchart of figure 31 is referred to, however figure 31 it not a flowchart. It appears that the reference should have been to figure 33.

2.   Appropriate correction is required.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 43, 44 and 45 in figure 25 (it appears they should be 243, 244 and 245, respectively). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 46 (page 38 line 25) and 45 (page 39 lines 4 and 21) (it appears it should be 246). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claims 29 and 12 recites the limitation "the self-condition." There is insufficient antecedent basis for this limitation in the claim, since the phrase does not appear earlier in the claims or the claims from which they depend. In the claims, "the self-condition" seems to refer to print setting information as stated in the independent claims.

Claim Rejections - 35 USC § 101

7.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8.   Claims 36 and 39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A computer program is per se non-statutory. The subject matter used in claims 36 and 39 of "a program for controlling/making..." is non-statutory because the terminology "program" alone has no set definition. An example of an acceptable subject matter not subject to a 101 rejection is "a computer readable medium storing a program for performing the steps of..."

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 18, 1 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Benson (6,411,396) in view of Rissman (6,552,743).

11.   In accordance with claim 18, Benson discloses a printer 16 connected to a host

device 12 (figure 2 and col. 3 lines 37-38).

12.   Benson further discloses processing means (unnumbered, but containing sub-

processors 40, 42 and 44) for interpreting command data sent from said host device

and performing prescribed processing in accordance with said interpretation result (col.

4 lines 22-39).

13.   Benson further discloses storage means 25 for storing bit map data (col. 8 lines

47-49).

14.   Benson further discloses printing means 34 for executing printing to a print

recording medium based on bit map data stored in said storage means (col. 8 lines 43-

45).

15.   Benson further discloses that the processing means further includes request

means, part of RIP 42, for requesting print object data designated by first print setting

information based on command data relating to the print setting; in Benson's system,

engine consultant 104 contains print engine specific data related to the particular print

engine used for printing a sheet (col. 4 lines 46-48), the imposition consultant 102 sorts

the print objects based on the data from the engine consultant 104 (col. 5 lines 30-32),

based on this data, the order the print objects are processed in, is scheduled by

scheduler 100 and passed on to the RIPs 42 (col. 5 lines 56-60), which can request a

new object after they finish processing one (col. 6 lines 24-25).

16.   Benson further discloses that the processing means further includes generation

means 42 for generating bit map data based on print object data obtained from

command data relating to data transmission based on said first print setting information,

and storing said bit map in said storage means; in Benson's system, RIPs 42 convert

data into a bitmap (col. 5 lines 63-65) in accordance with the data described above, the

data is then stored in storage means 25 (col. 8 lines 47-49).

17.   However, Benson does not disclose expressly that the request means requests

the object data from the host device (in Benson's system the object data is stored in the

printing device).

18.   Rissman discloses a printing device, which requests data from the host device

(col. 3 lines 25-27).

19.   Benson and Rissman are combinable because they are from the same field of

endeavor, namely image forming apparatuses that internally perform rasterization.

20.   Therefore, at the time of invention, it would have been obvious to a person of

ordinary skill in the art, to allow Benson's system to request object data from the host

device, as disclosed by Rissman, instead of downloading all the data from the host and

then requesting the data from the storage within the printer.

21.   The motivation for doing so would have been to a) allow the printer to have a

smaller memory, thus saving money and b) allow the processing to begin sooner, since

it is no longer necessary to wait for all the data to be transferred, thus decreasing

overall printing time.

22.   In accordance with claim 1, the apparatus of claim 18 performs the method of

claim 1. The processing, requesting and printing means of claim 18, as described

above, performs the receiving, requesting and printing steps of claim 1, respectively.

23.   In accordance with claim 36, the apparatus of claim 18 performs the functions of

the program of claim 36. The processing, requesting and printing means of claim 18, as

described above, performs the processing, requesting and generating functions of claim

36, respectively.

24.   Claims 19-32 and 2-15 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Benson in view of Rissman in further view of Inamine (EP 0827106).

25.   In accordance with claim 19, Benson and Rissman do not disclose expressly that

processing means sends reply information to the host device based on its characteristic

information in response to command data relating to a print setting inquiry, or that the

apparatus receives command data relating to the print setting sent from the host device

in response to said reply information.

26.   Inamine discloses that processing means sends reply information to the host

device based on its characteristic information in response to command data relating to a

print setting inquiry; in Inamine's system, if it is determined that environment setting

data (i.e. command data relating to the print setting) is required, it is input to the printing

apparatus through the host device (col. 53-57).

27.   Inamine further discloses that the apparatus receives command data relating to

the print setting sent from the host device in response to said reply information; in

Inamine's system, environment setting data Db (i.e. command data relating to the print

setting), is sent to the printing device from the host device (col. 3 line 58 – col. 4 line 3).

28.   Benson, Rissman and Inamine are combinable because they are from the same

field of endeavor, namely image forming apparatuses that internally perform

rasterization.

29.   Therefore, at the time of invention, it would have been obvious to a person of

ordinary skill in the art, to allow the system of Benson and Rissman to allow the printing

apparatus to communicate setting information to the host device and to transmit setting

information to the printing device, depending on the receiving setting information.

30.   The motivation for doing so would have been to allow setting information to be

transmitted to the printing device so that it can properly print received object data.

31.   In accordance with claim 2, the apparatus of claim 19 performs the method of

claim 2. The processing means of claim 19, as described above, performs the receiving

and sending steps of claim 2.

32.   In accordance with claim 20, Benson discloses that part of the processing

means, imposition consultant 102, prepares second print setting information based on

its characteristic information; in Benson's system, imposition consultant 102 determines

all the properties for each object to be generated (print setting information) (col. 5 lines

37-42) based on engine characteristic information received from engine consultant 106

(col. 5 lines 20-24).

33.   Benson further discloses that the RIP 42 part of the processor generates a

bitmap based of said print object based on said first or second print setting information;

in Benson's system the RIP 42 generates bitmap for each object (col. 5 lines 63-65) for

the print setting information for each object as described above in paragraph 34.

34.   In accordance with claim 3, the apparatus of claim 20 performs the method of

claim 3. The processing means of claim 20, as described above, performs the

preparing and printing steps of claim 3.

35.   In accordance with claims 21 and 4, Inamine disclose that first print setting

information (environment setting data Db) designates printing based on a plurality of

print data objects; in Inamine's system when data for a full page (obviously containing

multiple objects) is input, printing is performed based on the most recent environment

setting data (col. 8 lines 35-38).

36.   Rissman discloses requesting print data from the host device (col. 3 lines 25-27).

37.   In accordance with claims 22 and 5, Benson discloses that the processing means

specifies print object data in a prescribed order based on said first print setting

information and requests said specified print object data; in Benson system, scheduler

100 orders the objects to be printed, based on RIP parameters generated by imposition

consultant 102, and extracts them in order (col. 5 lines 56-60).

38.   In accordance with claims 23 and 6, Benson discloses that the processing means

divides a prescribed print area into prescribed areas (bands) when said first print setting

information is designating automatic arrangement of print object data; in Benson's

system, one implementation divides objects into bands and processes each band (col. 8

lines 29-40).

39.   Rissman discloses requesting print data from the host device (col. 3 lines 25-27).

40.   In accordance with claims 24 and 7, Benson discloses that the number of divisions that the print area is divided into is based on the number designated by the print setting information; in Benson's system the divisions are based on the transformation matrix data (col. 8 lines 31-36) which is calculated based on the print setting information (col. 7 lines 40-50).

41.   In accordance with claims 25 and 8, Benson discloses that the processing means determines the arrangement area of the object data in accordance with the margin value designated by the print setting information (col. 8 lines 3-7).

42.   In accordance with claims 26 and 9, Benson discloses that the processing means generates a prescribed band area worth of bit map data based on print object data sent from the host (col. 8 lines 31-40).

43.   In accordance with claims 27 and 10, Benson discloses that the processing means requests a plurality of print object data to be arranged in the bands of the print area; in Benson's system, all the objects within a given band are received and processed together (col. 8 lines 36-40).

44.   In accordance with claims 28 and 11, Benson discloses that the processing means request specific print object data based on issued management information; in Benson's system, management information in the form of a number is given to each object by the imposition consultant 102 (col. 7 lines 34-35), which is used by the scheduler 100 to schedule processing (col. 5 lines 56-60), which handles the sending of objects to the RIPs 42 (col. 6 lines 15-16).

45.   Rissman discloses a printing device, which requests data from the host device (col. 3 lines 25-27).

46.   In accordance with claims 29 and 12, Benson discloses that the processing means issues management information in accordance with a command to issue management information; in Benson's system, management information (a number for each object) is generated for each received object (col. 7 lines 34-38).

47.   In accordance with claims 30 and 13, Benson discloses that the processing means issues new management information in accordance with a command to issue management information; in Benson's system, new management information (a number for each object) is generated for each newly received object (col. 7 lines 34-38).

48.   In accordance with claims 31 and 14, it would be obvious to a person of ordinary skill in the art that management information be released when processing is completed so that management information is not stored for object data no longer being stored in the device, since storing this management information would provide no use, while it would take up storage space.

49.   Benson discloses that when RIPs become available, i.e. finish processing an object, the scheduler sends another object to the RIP (col. 8 lines 12-14) based on a request by the RIP 42 for another object (col. 6 lines 24-25). Therefore, it would be obvious to a person of ordinary skill in the art that the RIP must send a signal indicating that the object, and therefore the management data, has been released. From the combination of Benson with Rissman as described above, this signal would be sent to

the host device, as disclosed by Rissman, instead of the printer, as disclosed by

Benson.

50.   In accordance with claims 32 and 15, Benson discloses that when RIPs become

available, i.e. finish processing an object, the scheduler sends another object to the RIP

(col. 8 lines 12-14) based on a request by the RIP 42 for another object (col. 6 lines 24-

25). From the combination of Benson with Rissman as described above, this signal

would be sent to the host device, as disclosed by Rissman, instead of the printer, as

disclosed by Benson.

51.   Claims 33-34 and 16-17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Benson in view of Rissman in further view of Matsuda (5,800,073).

52.   In accordance with claim 33, Benson and Rissman do not disclose expressly that

the processing means suspends printing upon receiving print suspension information

from the host device.

53.   Matsuda discloses canceling the printing operation upon receiving information

from the host (col. 8 lines 21-24).

54.   Benson, Rissman and Matsuda are combinable because they are from the same

field of endeavor, namely image forming apparatuses.

55.   At the time of invention, it would have been obvious to a person of ordinary skill

in the art to allow the printing operation to be suspended based on a signal sent from

the host device, as disclosed by Matsuda.

56.   The motivation for doing so would have been to allow the use to save paper and

ink if a job was mistakenly transmitted to the printer for printing, by allowing cancellation

of the job before it is finished printing.

57.   In accordance with claim 16, the apparatus of claim 33 performs the method of

claim 16. The processing means of claim 33, as described above, performs the steps of

claim 16.

58.   In accordance with claim 34, Matsuda discloses that when cancellation occurs to

due to an error, the host device is notified of the cancellation (col. 10 lines 13-16).

59.   In accordance with claim 17, the apparatus of claim 34 performs the method of

claim 17. The processing means of claim 34, as described above, performs the steps of

claim 17.

Claim Rejections - 35 USC § 102

60.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

61.   Claim 37 is rejected under 35 U.S.C. 102(b) as being anticipated by Inamine.

62.   In accordance with claim 37, Inamine discloses that the printing apparatus

receives command data relating to the print setting from the host device; in Inamine's

system, environment setting data Db (i.e. command data relating to the print setting), is

sent to the printing device from the host device (col. 3 line 58 – col. 4 line 3).

63.   Inamine discloses that the printer sends reply information to the host device

based on its characteristic information in response to command data relating to a print

setting inquiry; in Inamine's system, if it is determined that environment setting data (i.e.

command data relating to the print setting) is required, it is input to the printing

apparatus through the host device (col. 53-57).

Claim Rejections - 35 USC § 103

64.   Claims 35 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Benson in view of Inamine.

65.   In accordance with claim 35, Benson discloses a printer 16 connected to a host

device 12 (figure 2 and col. 3 lines 37-38).

66.   Benson further discloses second storage means 25 for storing bit map data (col.

8 lines 47-49).

67.   Benson further discloses reception means interface 24, for receiving print

information from the host device (col. 4 lines 1-3).

68.   Benson discloses setting means, imposition consultant 102, for preparing second

print setting information based on its first print setting information; in Benson's system,

imposition consultant 102 determines all the properties for each object to be generated

(print setting information for each object) (col. 5 lines 37-42) based on engine

characteristic information received from engine consultant 106 and the object list of

objects sent from the host device (col. 5 lines 20-24).

69.   Benson further discloses that the RIP 42 part of the processor generates a

bitmap based of said print object based on said first or second print setting information;

in Benson's system the RIP 42 generates bitmap for each object (col. 5 lines 63-65) for

the print setting information for each object as described above in paragraph 34.

70.   Benson further discloses that printing is then performed based on the setting

information and object data (col. 8 lines 43-49).

71.   However, Benson does not disclose expressly first storage means for storing

characteristic information.

72.   Inamine discloses first and second storage means for storing, one, data storage

means 6, for storing print setting information (col. 5 lines 29-34) and the other,

environment setting data storage means 7, for storing characteristic information (col. 8

lines 54-58).

73.   Benson and Inamine are combinable because they are from the same field of

endeavor, namely image forming apparatuses that internally perform rasterization.

74.   Therefore, at the time of invention, it would have been obvious to a person of

ordinary skill in the art, to allow Benson's system to store characteristic information in a

separate memory, as disclosed by Inamine.

75.   The motivation for doing so would have been to use a RAM to store print setting

information (as disclosed by Inamine, col. 5 line 30) so that the information can be

accessed quickly and a more secure storage device for the characteristic information

(as disclosed by Inamine, col. 5 lines 50-52) so that is available even if power is lost,

since it is necessary to have for printing anything.

76.   In accordance with claim 38, Inamine discloses obtaining and characteristic

information of a printer necessary for printing with a specific printer from said specific

printer; in Inamine's system environment setting data Db is obtained, which includes data indicating specific printer characteristics (col. 4 lines 8-15).

77.   Inamine discloses sending characteristic information to the printer (col. 1 lines 49-57)

78.   However, Inamine does not disclose expressly.

79.   Benson discloses using characteristic information to print setting information; in Benson's system, imposition consultant 102 determines print setting information for each print object (col. 5 lines 38-45) based on characteristic information generated by engine consultant 106 (col. 5 lines 20-24).

80.   Benson further discloses that the print setting information is transferred to the RIP 42 and then the print engine 34 for printing (col. 8 lines 43-45).

81.   Benson and Inamine are combinable because they are from the same field of endeavor, namely image forming apparatuses that internally perform rasterization.

82.   Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to prepare print setting information based on characteristic information and send the print setting information to the specific printer.

83.   The motivation for doing so would have been to allow unique print setting information to be used for each object thereby reducing the number of artifacts in the final printout.

84.   In accordance with claim 39, the method of claims 37 and 38 performs the functions of the program of claim 39. The steps of claims 37 and 38, as described above, perform the functions of claim 39.

85.   <u>In accordance with claim 40</u>, Inamine discloses that the host sends print setting

information to the printer and the printer receives the information; in Inamine's system,

environment-setting data Db (i.e. command data relating to the print setting), is sent to

the printing device from the host device (col. 3 line 58 – col. 4 line 3).

86.   Inamine further discloses that the host device sends print data Da to the printer,

which therefore obviously receives print data (col. 4 lines 3-4).

87.   Benson discloses that the printer requests object data (col. 6 lines 24-25) after

each object data has had its setting information determined (col. 5 lines 37-45).

88.   Benson further discloses that printing is performed based on setting data and

object information (col. 8 lines 43-47).

89.   The motivation for combining Benson and Inamine is given in paragraphs 87 and

95.

Contact Information

90.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Karl R. Reitz whose telephone number is (703) 305-

8696. The examiner can normally be reached on Monday-Friday 8:00-4:30.

91.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David K. Moore can be reached on (703) 305-7452. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

92.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

KRR

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